

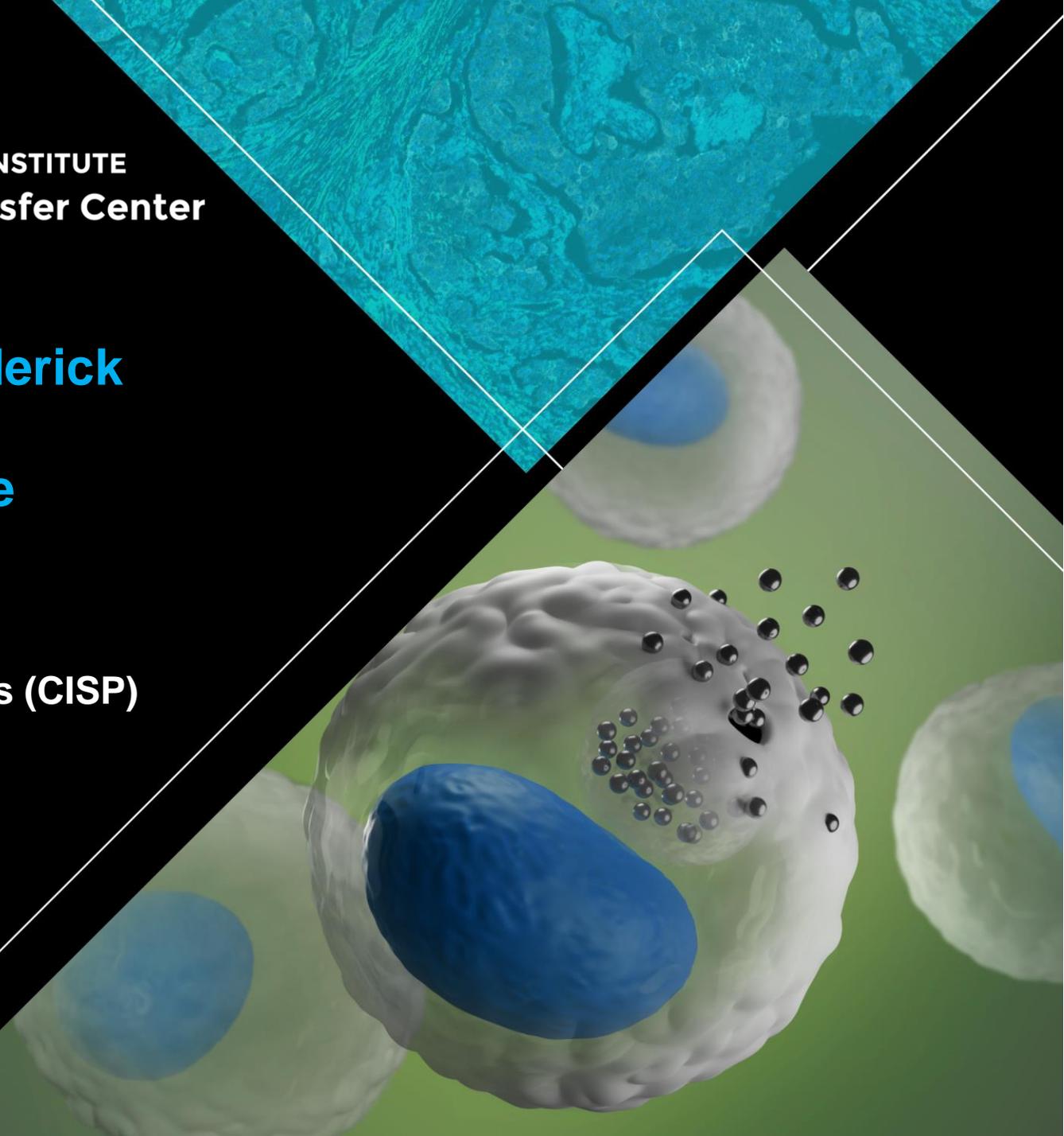


**NATIONAL CANCER INSTITUTE
Technology Transfer Center**

National Cancer Institute and Frederick National Laboratory Annual Technology Showcase

**Vladimir Popov, Ph.D.
Chief Innovation Officer
Center for Innovation and Strategic Partnerships (CISP)
FNLCR**

**Michael Salgaller, Ph.D.
Supervisor, Technology Analysis
and Marketing Unit
NCI Technology Transfer Center**



It All Started with a November 2016 Meeting with Frederick County/City ...





Tech Showcase is a Unique Event

- **Only NIH conference** with potential licensees and collaborators as primary audience; agenda addresses their interests:
 - Technology pitches with a business case
 - Keynote address, voice of patient, success stories, industry-focused panels, networking
- **Co-sponsorship agreement** w/economic development offices of Frederick City/County and TEDCO to leverage resources, relationships and expertise
- **PI opportunity:** develop business-case presentations; mentored by Tech Analysis & Marketing Unit (TAMU) and FNL Partnership Development Organization (PDO)
- **Post-doc opportunity:** Technology Transfer Ambassadors Program (TTAP) presents quick invention pitches and posters from “potential commercial product” perspective

Event Addresses NCI & FNL Mission



IP utilized for
technology
development /
commercialization



Attract new R&D
resources



Obtain return on
public investment



Stimulate
Economic
Development



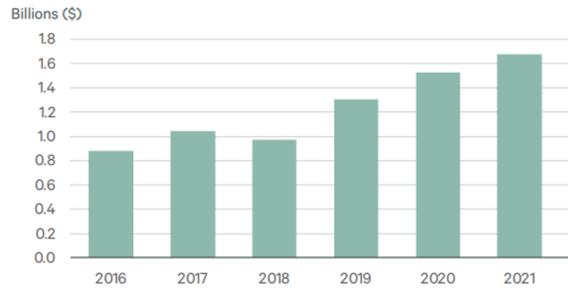
Benefit Public
Health



A Great Fit within Maryland



NIH FUNDING



Source: NIH. Washington/Baltimore Region

1st in NIH R&D Contract Awards
3,400 Life Sciences Businesses

#1 Technology & Science Workforce
1st in Employed Doctoral Scientists
#2 Biological Scientists



Source: Milken Institute, Business Facilities and Maryland Department of Commerce

Even Better Fit within Frederick County

Tech Showcase Partners

- TEDCO

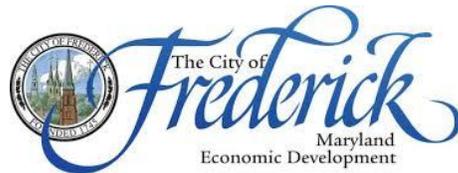


- Frederick Co. Econ Dev



Frederick County
Office of Economic Development

- City of Frederick



- Federal Lab Consortium



- 100+ Life Science Companies
- Strong Cell Therapy & GMP Manufacturing Cluster
- Large Concentration of Major Government Funded Research
- Frederick County is #1 in NIH Research and Development Contract Awards
- Incubation to Acceleration - Business Innovation Centers
 - Frederick Innovative Technology Center Inc. (FITCI)
 - ValLogic – 75,000 SF lab space
 - Ballenger Bio – 9,000 SF of R&D lab spec suites
 - I-270 Innovation Labs – 10,668 SF of R&D lab spec suites

AWARD-WINNING



State and Local
Economic Development Award



Tech Showcase Builds and Strengthens Stakeholder Relationships



Expanding Our Target Audience



- **The Usual Suspects:**

- Current customers, website and PI referrals

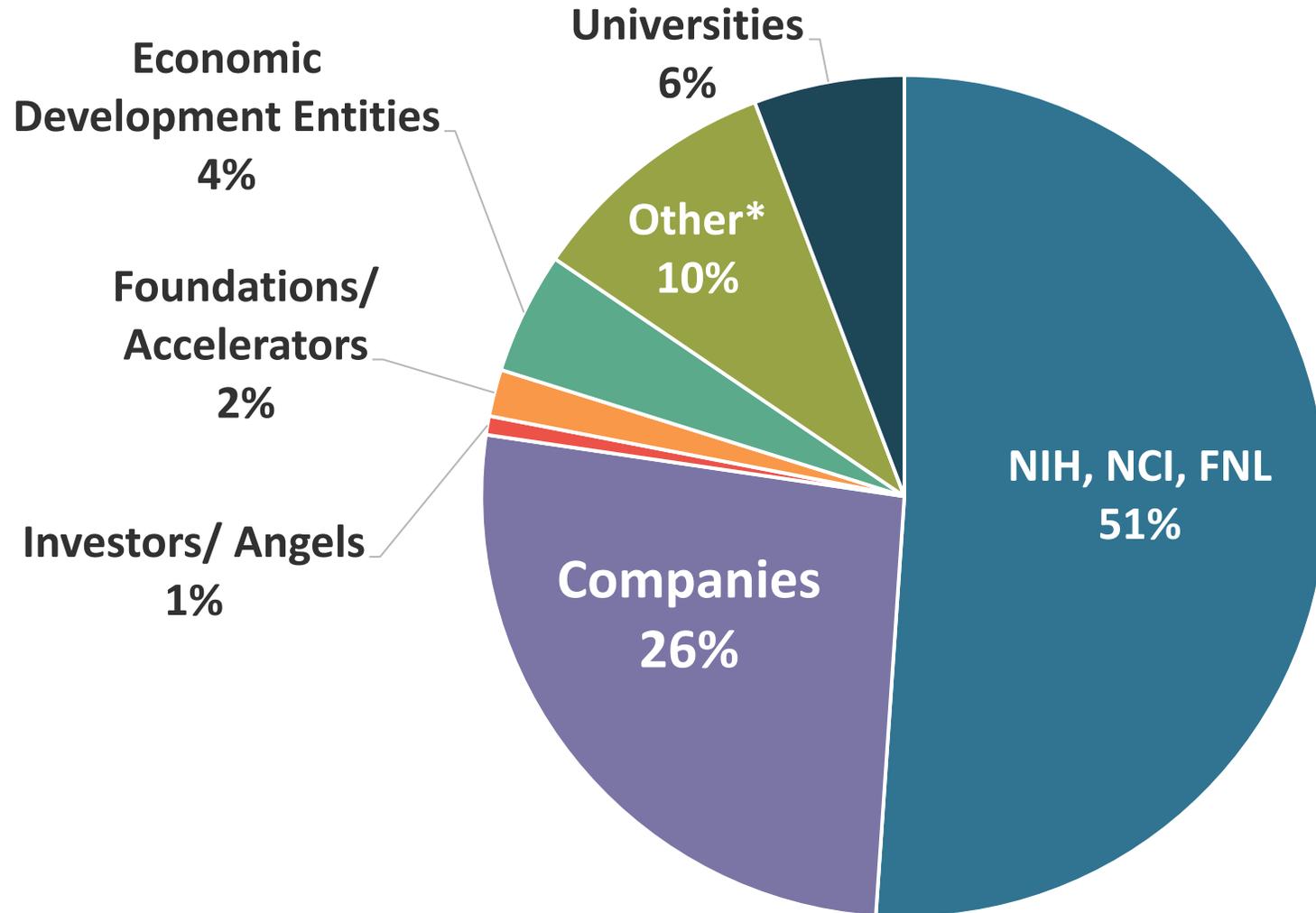
- **Newer players in the ecosystem:**

- Nat'l/Int'l companies – all stages
- Investors
- Entrepreneurs
- Technology scouts
- Trade associations and economic development entities
- Foundations
- Service providers (law, etc.)

They are potential partners once we create awareness

They are referral sources once we create awareness

Who Attends?



*includes industry reps registering with personal accounts

Expanded Outreach via Established Network of National and International Stakeholders



Event Addresses Common Myths About the NIH



- **Only basic research**
FACT: Translational/clinical
- **Only work with academia**
FACT: Hundreds of industry licenses & partnerships
- **Only work with U.S. companies**
FACT: We partner internationally
- **Only study therapeutics**
FACT: Devices/Dx/Biomarkers/Wearables/Tools
FACT: Prevention, Control and Causes
- **Only develop internal ideas**
FACT: Ideas can originate in company partners

Agenda and Features

➤ Keynote Addresses:

- ★ NCI Directors, Dr. Jim Cherry, Kite Pharma Exec, MD Commerce Secretary, etc.



➤ Panels

➤ PI presentations

➤ Programmatic presentations

➤ Networking

➤ Voice of the patient

➤ TTAP – next generation career training

★ Diversity a priority





Showcases and Educates on National Lab's Unique Capabilities and Expertise

- **How to work, partner and collaborate**
- **Unique programs and capabilities available for collaborations/support**
 - **Ras program**
 - **Nanotech Characterization Lab (NCL)**
 - **Center for Advanced Pre-Clinical Research (CAPR)**
 - **CryoEM**
- **Unique services available to external research community**
 - **Only at FNL**
 - **Partnerships via Technical Service Agreements**



Educating FNL and NCI Scientists: How to Communicate with Industry and Market Their Innovations

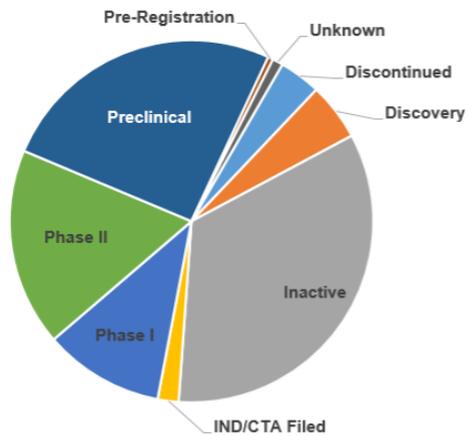
- **10-min limit for presentation – 8-12 slides including **business case****
 - **Executive summary**
 - **What is the problem?**
 - **What is your solution?**
 - **Background and technology overview**
 - **Addressable market and opportunity**
 - **Competitive analysis**
 - **Summary**
 - **Licensing/Partnering POC**

“Business Case” Information is Included (Antibody-Drug Conjugate for Neuroblastoma)

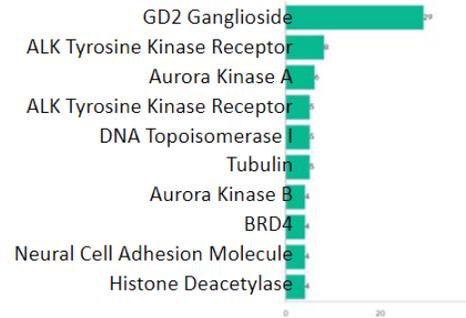
~~“Neuroblastoma is a \$10B Market”~~

Neuroblastoma Drug Market Landscape

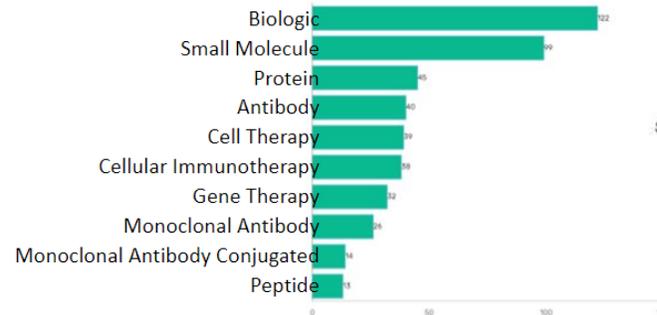
Drug Development Pipeline - Neuroblastoma



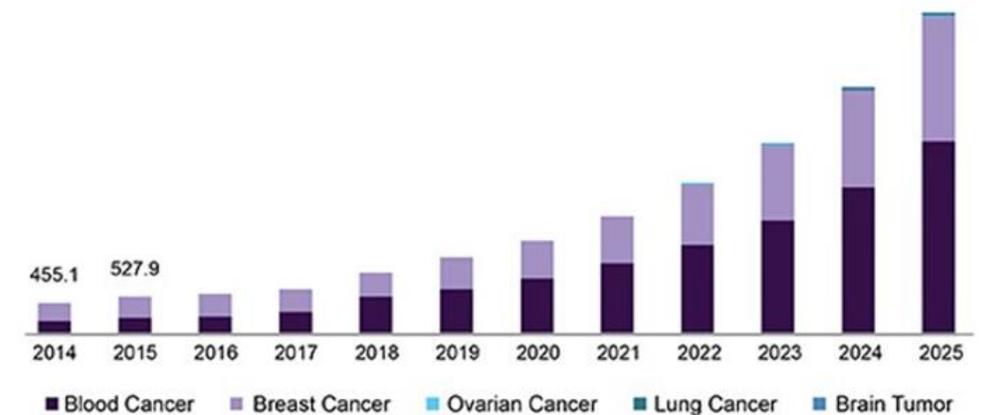
Top 10 Targets by Drugs



Top 10 Molecule Types by Drugs



U.S. antibody drug conjugates market size, by application, 2014 - 2025 (USD Million)



Source: www.grandviewresearch.com



“Business Case” Information is Included (Antibody-Drug Conjugate for Neuroblastoma)

ADC Market Landscape

Market Opportunity

- 6 ADCs FDA-approved
- 70%-80% of ADC manufacturing is outsourced
- Few Contract Manufacturing Organizations (CMOs) have resources to develop ADCs
- Strong market for new players who can overcome manufacturing challenges

Competitive Advantages

- ADCs provide:
 - enhanced efficacy versus naked antibodies
 - non-immunogenicity
 - killing neighboring cancer cells
- CD276 ADCs therapeutic benefit simultaneously ablates tumor cells and tumor associated stroma
- Clinical trial targeting rare cancers will facilitate commercialization for other solid tumors

Connecting Technology to Licensing/Partnering Opportunity

IP Status and Contact Information

PATENT STATUS:

Anti-CD276 Antibodies (B7H3) (NIH Ref. No. E-250-2014)

- U.S. Patent Number 10,604,582, Granted March 31, 2020 (Filed March 16, 2017)
- U.S. Patent Application Number 16/812,980, Filed March 9, 2020
- European Patent Application Number 15772128.3, Filed April 18, 2017

Antibody-Drug Conjugates Specific for CD276 and Uses Thereof (NIH Ref. No. E-145-2019)

- U.S. Provisional Patent Application Number 62/947,135, Filed December 12, 2019

For Technical Information – Inventor:

Brad St. Croix, Ph.D., NCI

stcroix@ncifcrf.gov

301-846-7456



This Technology is Available for Licensing/Collaboration – Contact:

Rose Freel, Ph.D., NCI

rose.freel@nih.gov

301-624-1257



A Complex Event Executed with Minimal Staff and Cost

- **Planning Team (5 staff) organizes a seamless online and in-person experience**
- **Lots of moving parts:**
 - 45 speakers from multiple internal and external organizations
 - Event website, marketing and social media
 - Concurrent panels
 - Stakeholder exhibit tables / posters
- **Executed without a budget; our only cost:**
 - Time of TTC's TAMU and FNL PDO Staff (year-round planning effort)
 - FNL's AV and Event Staff
 - Use of FNL facility
 - Co-sponsors provide light refreshments

Example of What it Takes to Execute: Director's Notes

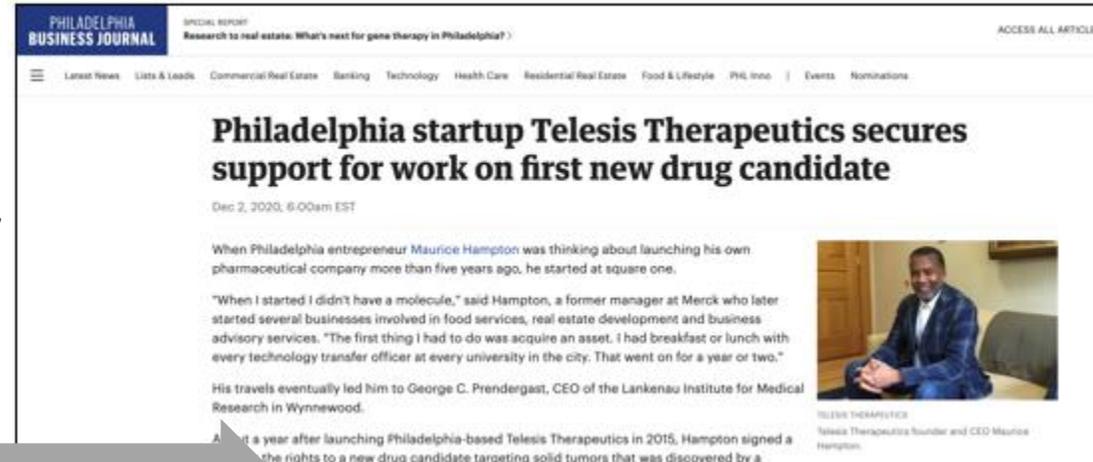
TIME	PRESENTER	ACTION	CONTROLLING SLIDES	NOTES
1:31 – 1:32		Transition to Panel Sessions Attendees stay in main auditorium for Panel 1 or proceed to breakout room for Panel 2	Jeff	Display slide 6
TIME	PRESENTER	ACTION	CONTROLLING SLIDES	NOTES
1:32 – 2:20 pm	Panel Session 1 Auditorium and Main WebEx: Panel 1: How to “Tap into Resources and Work with the Frederick National Lab”	Moderator: Vladimir Popov , proceed to podium Three panelists, Nissley, Mudunuri & Delege, proceed to chairs @ table on stage	“F - Panel 1 – How to tap into Resources FNL” Jeff S. display slides Vladimir control slides Display Slide 13 with QR code at the end	Maggie to monitor online WebEx and select first question from online audience Someone from AV Staff will bring mike to person in room if questions Display Slide 13 with QR code at the end

These detailed, notes are prepared for all 5+ hours of the conference by TTC's TAMU

Success Case: Telesis Therapeutics, Inc.

CEO Hampton's pursuit of a scientist led him to the FNL's Serguei Kozlov, Principal Scientist/Team Leader at the Center for Advanced Preclinical Research.

"He had a key interest in pancreatic Cancer." Hampton recalled. "The two of us sat with a whiteboard for three hours going through what we wanted to do."



Telesis
THERAPEUTICS

Recent key milestone: signed Cooperative Research and Development Agreement signed with FNL

FNL Outreach Activities



30 externally facing events in 2022
20 events serving as keynote, panelist, exhibitor, and/or meeting organizer



Regional

- BioHealth Capital Region Virtual Forum
- Maryland Life Sciences Bio Innovation Conference
- FLC –Mid-Atlantic Regional Meeting
- White House Initiative on HBCUs (WHIHBCU) NIH Session Panel on Partnerships & Funding Opportunities
- Federal Historically Black Colleges and Universities Industry Day

Local

- FNL and NCI Technology Showcase
- Ft. Detrick Alliance Quarterly Networking Breakfast
- Frederick Community College and FNL MOU Signing Event
- Bowie State University Mini-Expo: A Research Event with Arundel School in Zimbabwe (*co-organizer*)
- Foundation for the National Institutes of Health (FNIH) Biomarkers Consortium Cancer Steering Committee Meeting
- FNIH Cancer Steering Committee Annual Scientific Symposium FNIH Cancer Prevention Workshop
- FNL Summer Training Info Session to Georgetown University
- Women in Science Speak

National

- AUTM Annual Meeting
- American Association for Cancer Research (AACR) Meeting
- University Industry Demonstration Partnership (UIDP) Mission in Motion HBCU Event
- BIO International Convention
- FLC National Meeting
- Accelerating Therapeutics for Opportunities in Medicine (ATOM) Webinar: Alternative Approach and Business Model to Accelerate Drug Discovery
- SeroNet Investigators Meeting

The Tech Showcase is Part of a Year-Round Outreach Campaign – FNLCR and NCI TTC Working Together



NIH Events Management
MARCH 23, 2018
SCHEDULE OF EVENTS
Olso Cancer Cluster and Innovation Norway Trade Mission 8:30 am – 2:00 pm Room 7
One-On-One Sessions Rooms 5 & 8 9:30 am – 11:30 am





frederick.cancer.gov

The Frederick National Laboratory for Cancer Research is government owned and contractor operated on behalf of the National Cancer Institute.



**NATIONAL
CANCER
INSTITUTE**